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1. OBJECTIVES OF THE MANAGEMENT PLAN

The CSBP asbestos management plan has been developed to provide a means of effectively managing asbestos materials. Primarily the plan has been designed to manage those asbestos materials that have been identified during asbestos surveys undertaken across CSBP.

The objectives of the management plan are to:

- Meet the requirements of The National Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)] ;
- Provide information and tools to proactively manage and control asbestos situations;
- Provide control measures and procedures as required under relevant legislation; and
- Provide manageable controls to remove or minimise the risk of CSBP' employees, its customers, visitors, and contractors being exposed to asbestos materials.

2. BACKGROUND INFORMATION

2.1 ASBESTOS AND ITS APPLICATION

The term "Asbestos" does not describe a specific mineral, it is a generic commercial term applied to fibrous silicate minerals belonging to the serpentine and amphibole groups of rock forming minerals. There are six known "asbestos" minerals including; chrysotile, amosite, crocidolite, anthophyllite, tremolite and actinolite.

Chrysotile (white), amosite (brown) and crocidolite (blue) are the three most common in commercial applications. Asbestos has been used commercially in over 3000 products. Its commercial application is a reflection of its high tensile strength, flexibility and resistance to heat and chemical impact.

Asbestos materials have been used extensively throughout Australia. However over the last 25 years the production and application of asbestos materials in Australia has gradually ceased. Today, legislation has outlawed the production, importation and use of asbestos containing materials.

Crocidolite (blue) asbestos was mined in Australia at Wittenoom in W.A. until 1967, its commercial use ceased in 1979. Amosite asbestos was used in fibre cement products until 1984 and widespread application of chrysotile asbestos in building and construction materials ceased in 1985. While the use of asbestos in general building and construction materials ceased in the mid 1980's, the use of chrysotile asbestos in industrial applications (i.e. gaskets) continued in Australia until 2003.

2.2 HEALTH EFFECTS

The impacts of exposure to asbestos are well known. All types of asbestos fibres can cause health effects through inhalation. To be inhaled into the lungs fibres must be of a respirable size. Respirable fibres are particles of length $>5 \mu\text{m}$, diameter $<3 \mu\text{m}$ and a length to width aspect ratio of greater than 3:1 (NOHSC, 1988).

Once inhaled, fibres are deposited in air passages and on cells that make up the lungs. A percentage of fibres are removed from the lungs by macrophages (scavenger cells) or are coughed up, however some asbestos fibre may remain, becoming logged in the lung tissue.

Health effects commonly associated with inhalation exposure to asbestos are asbestosis, lung cancer and mesothelioma. Benign pleural abnormalities, also known as pleural plaques, can also result from asbestos exposure.

Asbestosis

Asbestosis is irreversible fibrosis (scarring) of the lung. Fibrosis results from asbestos fibres remaining in the lungs. The presence of asbestos fibre in the lungs can continue to have impact for many years after exposure stops. Asbestosis is linked to continued exposure to high concentrations of asbestos fibre. Asbestosis has a relatively short latency period of between 5 to 15 years.

Lung Cancer

Asbestos, by itself or acting with tobacco smoke, can cause lung cancer. As with asbestosis, asbestos related lung cancer is generally a result of continued exposure to high concentrations of respirable asbestos fibre. Lung cancer can occur many years after initial exposure (10–40 years).

Mesothelioma

Mesothelioma is a rare cancer which affects the lining of the chest cavity (the pleura) or, less commonly, the lining of the abdominal cavity (the peritoneum). It is generally, but not always, associated with continued occupational or other high exposure to respirable asbestos. Mesothelioma has a long latency period and generally does not occur until 20–50 years after exposure.

Pleural Plaques

Thickening of the pleural membrane and development of pleural plaques may occur through exposure to asbestos. There are usually no symptoms, but in severe cases it may cause impaired lung function. Pleural plaques can be the result of both short-term exposure to high fibre concentrations and long-term exposure to lower concentrations.

3. LEGISLATION

The National Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)] is recognised nationally as the best practice guideline for the management of asbestos in the occupational setting. Western Australia outlines specific requirements with regards to asbestos management.

3.1 NATIONAL CODES & GUIDANCE

The following codes of practice and guidance materials are recognised throughout Western Australia:

- Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)]
- Guide to the Control of Asbestos Hazards in Buildings and Structures [NOHSC: 3002 (1988)]
- Code of Practice for the Safe Removal of Asbestos [NOHSC: 2002 (2005)]
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust [NOHSC: 3003 (1988)]
- Occupational Safety and Health Act, 1984
- Occupational Safety and Health Regulations, 1996.

3.2 ACTIONS ARISING FROM SURVEYS

During the asbestos surveys a number of asbestos items have been identified. The asbestos survey report and asbestos register includes reference to actions for each item that has been identified. Actions that have been included within the asbestos registers for the sites that have been surveyed include:

Priority 1 (P1)

Restrict access and isolate material, remove as soon practicable (less than 1 month). The identified material presents an immediate occupational / environmental risk in its present condition. Typical instances of these materials may include:

- Friable asbestos material,
- Friable asbestos material located in air conditioning ducting,
- Asbestos material that is poorly bonded to the substrate,
- Asbestos material that is severely water damaged or subject to continuous abrasion,
- Asbestos debris in reasonably accessible areas

Priority 2 (P2)

Limit access as an interim measure and identify for removal (within 3 months). The identified material presents a potential occupational / environmental risk in its present condition. Typical instances of these materials may include:

- Materials that exhibit impact, abrasion or that further damage or deterioration to the material is likely to occur.
- Friable material that is enclosed or encapsulated,
- Friable material where disturbance of, or entry into the enclosure is unlikely to occur.

Priority 3 (P3)

Identify for removal where maintenance or refurbishment may cause disturbance of the material. Treat material to prevent potential fibre release as an interim measure. The identified material presents a potential occupational / environmental risk in its present condition if acted upon. Typical instances of these materials may include:

- Materials that exhibit minor impact damage or degradation.
- Asbestos cement debris in rarely accessed areas.
- Asbestos gaskets and brake linings.

Priority 4 (P4)

Leave in situ and re-assess condition on at least an annual basis as required by Western Australian Health (Asbestos) Regulations 1992. Consider removal when maintenance or refurbishment may cause disturbance of the material. The identified material presents a low occupational / environmental risk in its present condition unless acted upon. Typically, these materials are inaccessible and / or fully enclosed, stable and unlikely to be damaged from adjacent activities.

4. ROLES AND RESPONSIBILITIES

Under the National Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)] responsibilities must be outlined in the asbestos management plan. CSBP must nominate appropriate personnel to administer the asbestos management plan and to undertake all other associated responsibilities.

For the purpose of this plan general roles and responsibilities are outlined below:



CSBP Safety and Hygiene Team will be responsible for:

- Approval and distribution of the asbestos management plan, site asbestos survey reports, registers and other relevant information; and
- Engaging consultants and organising asbestos compliance surveys and re-surveys as required
- Providing information and instruction to employees throughout CSBP
- Organising training and setting responsibilities as outlined within this management plan
- Monitoring and updating the asbestos management database
- Liaising with regulatory bodies, staff groups and the public in regards to any asbestos related issues;
- Responding to any issues and actions that may arise through the implementation of the asbestos management plan
- Making the site asbestos register available to employees, visitors and contractors where applicable
- Organising or undertaking labelling of asbestos situations at the site
- Implementing the actions outlined in the site asbestos survey reports
- Organising airborne fibre monitoring as required and maintaining records of any results
- Conducting periodic inspections of all asbestos containing materials at the site
- Responding to any emergency situations that occur at the site
- Reporting any issues & actions to the responsible manager; and
- Recording and maintaining all records in relation to asbestos at CSBP.

CSBP Field Engineering

- Issuing work permits in accordance with the requirements of management plan; and
- Engaging asbestos removal contractors and supervising all removal works

CSBP employees will be responsible for:

- Reporting any damaged or suspect materials identified during the course of their work; and
- Participating in asbestos awareness sessions and monitoring programs.

5. ASBESTOS MANAGEMENT – GENERAL PRINCIPLES

5.1 ASBESTOS MATERIALS REGISTER

An Asbestos Materials Register forms an integral part of any effective Asbestos Management Plan. A register identifies the location and status of asbestos situations that have been identified.

Each area where asbestos has been identified should have access to a copy of the Asbestos Survey report. The report for each area contains an asbestos register which should be used for the management of identified asbestos materials.

The asbestos registers, both those in individual reports and the registers within the asbestos management database should be updated when materials are removed, other actions are planned and undertaken, new



materials are identified and when the building or site is re-surveyed. Updating of registers should include the date upon which the update was made and the name of the person who was responsible for the update.

The Responsible Person at each building where asbestos materials have been identified should ensure the asbestos survey report/register is made available to all staff, visitors and contractors who enter the premises. The register must be reviewed prior to the issue of any work permit.

5.2 IDENTIFICATION OF ASBESTOS MATERIALS

As a rule of thumb buildings constructed post 1987 are not likely to have ACMs fitted, at least not in the general construction of the building. It is buildings built between the 1940's and 1987 where the presence of ACMs is most likely. This said, the application of industrial products (i.e. gaskets and brake linings) has occurred throughout Australia until recently, so one can never be sure that a building is "asbestos free".

It is the responsibility of CSBP to identify and assess the condition of asbestos materials that exist within any of its premises. Identification of asbestos materials must be undertaken by a competent person and include assessment of any identified material's condition.

Asbestos surveys are undertaken to determine the presence and condition of readily accessible asbestos materials within a site or structure. Asbestos surveys should be repeated at each CSBP site where asbestos materials are present every three years to determine if there has been any damage or deterioration of the materials that are present and to ensure recommended control measures are being effectively implemented.

5.3 PERIODIC INSPECTION OF ASBESTOS MATERIALS

As recommended in site survey reports and in accordance with the Code of Practice annual inspections of asbestos materials that are present and remain in-situ at CSBP sites should be undertaken. The purpose of these inspections is to determine if there has been any obvious damage or deterioration of identified materials.

The Occupational Hygiene Advisor for CSBP will be responsible for undertaking periodic inspections of asbestos materials that are present. During the inspections the asbestos materials survey report and register should be referenced and each of the materials that are identified should be inspected.

Inspection should include checking if there has been any new damage or deterioration of the materials, checking that all surfaces are sealed and ensuring there are no natural or mechanical forces being applied to the material that could cause damage (i.e. tree branches rubbing against an asbestos cement roof or gutter).

Details and findings from inspections should be added to asbestos survey reports.

5.4 AIR MONITORING

Air monitoring for asbestos fibre should be conducted when there is an asbestos situation that may pose a risk to the health of employees, contractors or visitors. Monitoring will also be required prior to, during and after any asbestos work that may occur at CSBP.

All asbestos air monitoring should be conducted by an appropriately qualified person or organisation in accordance with the NOHSC Membrane Filter Method for the Determination of Airborne Asbestos Fibres.

Results from airborne fibre monitoring are expressed in fibres per millilitre of air (fibre/ml). Results should be compared to the exposure standard for asbestos (0.1 fibres/ml – all types of asbestos/ any mixture) outlined in the National Exposure Standards for the Occupational Environment [NOHSC: 1003(1995)]. In addition a control standard of 0.01 fibres per/ml should be applied for all clearance type airborne fibre monitoring.

All monitoring events and results conducted by CSBP should be recorded for each site. This information will be recorded within the occupational hygiene data management system

There are a number of different types or styles of monitoring that can be utilised, the following summarises these:

Baseline Air Monitoring

Prior to beginning any asbestos removal or control procedure (e.g. sealing or encapsulation), airborne fibre monitoring should be undertaken in the affected area to establish the background airborne respirable fibre concentration prior to the beginning of the works. The results from such testing should be recorded for future reference.

Event Air Monitoring

During any asbestos removal, areas which may be affected by the works will be subject to daily asbestos air monitoring. This is to ensure airborne respirable fibre concentrations remain within the exposure standards outlined above.

Clearance Air Monitoring

Following any asbestos removal, control procedure or emergency incident, the affected area should be subjected to airborne fibre monitoring. The affected areas should not be re-occupied until the airborne fibre concentration is below 0.01fibres/ml.

Routine Air Monitoring

In the instance where an asbestos situation has been identified and is considered hazardous but suitable controls have not been applied, routine airborne fibre monitoring should be arranged. The purpose of such monitoring is to ensure airborne fibre concentrations remain within the prescribed exposure standards at all times.

6. LABELLING

All identified or presumed asbestos containing materials or their enclosures should be clearly labelled. The purpose of labelling is to warn people of the presence of asbestos containing materials. The Responsible Person at CSBP where asbestos materials have been identified shall have responsibility for applying labels to asbestos containing materials.

Where asbestos presence is known or presumed and a clear indication of exact labelling location has not been given in an asbestos survey report the following guidelines should be followed:

- All signposting and labelling should meet the requirements of AS 1319 – Safety Signposting for the Occupational Environment
- All labelling of asbestos containing materials should be prominent. Label locations should allow a person to easily identify the asbestos containing material when approaching, passing or working in the vicinity of that material
- Where large areas of asbestos containing material are present (e.g. asbestos cement wall lining throughout a large office space), labels should be placed at intervals so that regardless of where a person is working a label is clearly visible. Alternatively a large warning sign in a prominent location at the entrance to the area may be suitable; and

- Where a material itself cannot be clearly labelled due to its nature or location prominent labels or warning signs should be affixed nearby that clearly identify the material and its location.

An example of warning labels and signs is provided in Part 9, Figure 2 of The Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)] and is included in Appendix C.

7. WORKING WITH OR NEAR ASBESTOS CONTAINING MATERIALS

Asbestos presents a risk if it is disturbed, becomes airborne and is inhaled with the fibres lodging in the lungs. The risk is proportional to the amount of fibre deposited in the lungs (without inhalation of fibre there is no risk).

Where there is the risk of disturbing known asbestos containing materials through building maintenance or service activities, a safe system of work must be implemented to minimise the risk of exposure to airborne fibres.

To ensure minimal disturbance or damage of asbestos containing materials during maintenance and service activities abrasive or pneumatic power tools should never be used on asbestos containing materials, these include angle grinders, sanders, saws and high speed drills. If no alternative option is available for the asbestos work a team based risk assessment must be conducted prior to the task. In addition compressed air or high pressure water should never be used to clean asbestos containing materials or areas which may have any asbestos contamination.

Where it is possible to establish and maintain a restricted working area without risk of impacting on employees work may be undertaken during normal working hours. Where a restricted area cannot be established and maintained the work should be undertaken outside of normal working hours when employees are not present.

Prior to the beginning of the work appropriate signposting should be erected and the area barricaded to restrict access. No personnel, other than those required to undertake the work within the restricted area should enter the area under any circumstances.

A wet method of work should be utilised whenever possible and wet methods should be applied for cleaning after the completion of works provided they can be undertaken safely. Where a wet method cannot be used for cleaning, an asbestos HEPA rated vacuum cleaner should be used for the removal of dust and debris. If vacuuming and/or wet methods are not fully effective in removing all contamination then polyvinyl acetate (PVA) sealant should be applied.

The Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)] has procedures for certain maintenance tasks which should be adopted. These maintenance tasks involve:

- The drilling of asbestos containing materials
- Sealing, coating and painting of asbestos containing materials
- Cleaning leaf litter from gutters of asbestos cement roofs
- Replacing cabling in asbestos cement conduits and boxes
- Working on electrical mounting boards (switchboards) containing asbestos; and
- Inspection of asbestos friction materials.

8. ASBESTOS CERTIFICATE

Where there is the potential to dislodge or damage intact asbestos material during works an asbestos certificate must be completed and issued with the corresponding Work Permit. The certificate and work permit should be issued by the Responsible Field Supervisor on site and accepted by the person or persons undertaking the work.

The Asbestos Certificate is for the management of minor maintenance and services work only. In the instance of major refurbishment, demolition or asbestos removal an appropriately qualified person or organisation should be engaged to manage and oversee the works.

9. TRAINING AND AWARENESS

Training regarding asbestos hazards and risks should be conducted for CSBP employees that are required to administer the Asbestos Management Plan or required to work with or near asbestos containing material. The education program should include, as a minimum:

- Familiarisation with State Regulations applicable to asbestos, The code of practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)], and The Code of Practice for the Safe Removal of Asbestos [NOHSC: 2002(2005)]
- Background information regarding asbestos, including health effects
- Purpose and application of the Asbestos Management Plan
- Procedures for managing asbestos on-site; and
- The correct use of control measures and safe work methods to minimise the risks of asbestos.

10. ASBESTOS REMOVAL

CSBP has identified a number of asbestos situations where targeted removal is required. These situations along with any other known situations or situations that become apparent in the future need to be managed appropriately to ensure employees, contractors and visitors are not put at risk of asbestos exposure during the course of removal works.

In accordance with State Legislation and the Code of Practice for the Safe Removal of Asbestos [NOHSC: 2002(2005)] the following should be applied for all asbestos removal works.

10.1 ENGAGING A REMOVALIST

Under legislation in Western Australia there are licensing requirements for asbestos removalists. This said, not all asbestos removal will require a licensed removalist as such. Small areas of asbestos cement materials, vinyl floor tiles, gaskets and brake linings can be removed without a licence. The CSBP Hygiene Advisor and Field Engineering Field Supervisor should be contacted for advice prior to organising any asbestos removal.

When seeking information regarding asbestos removal requirements or a licensed asbestos removalist, the field engineering team should be contacted for information and contact details. Under no circumstances should any asbestos removal occur without first contacting field engineering.

10.2 PLANNING REMOVAL

Planning of removal works should be undertaken in consultation with the removalist that will be responsible for the works. When planning removal works, the following should be considered:

- Can the removal be undertaken safely
- Can the works be undertaken during normal work hours without impacting on employees, visitors, contractors or members of the public
- What areas will need to be restricted during the course of the works
- How will areas that are restricted be physically guarded to ensure unauthorised personnel do not enter
- Who needs to be advised of the works (e.g. employees, supervisors, and Safety team)
- What controls will need to be in place to ensure employees, visitors, contractors and members of the public are not put at risk of asbestos exposure
- Has an appropriate organisation been engaged to conduct air monitoring and clearance inspections for the asbestos removal
- What methods will be in place for the containment and disposal of asbestos materials waste; and
- How will relevant information be communicated between CSBP, the removalist and other relevant parties?

10.3 AT THE COMPLETION OF REMOVAL

At the completion of any asbestos removal works certain actions need to be undertaken to ensure the workplace can be safely re-occupied, these include:

- Inspection of the area by a competent person to determine if the removal has been completed in accordance with the Code of Practice and other relevant Legislation and to determine if the area can be safely re-occupied; and
- Clearance air monitoring being conducted (See section 6.3.3)
- A clearance certificate issued containing confirmation of clearance inspection and clearance monitoring results.